ACC.15
TCT@ACC-i2 | innovation in intervention

A246
JACC March 17, 2015
Volume 65, Issue 10S

Acute Coronary Syndromes

PREDICTING THE LIKELIHOOD FOR CORONARY ARTERY BYPASS GRAFTING IN NON ST ELEVATION MYOCARDIAL INFARCTION PATIENTS

Poster Contributions
Poster Hall B1
Monday, March 16, 2015, 9:45 a.m.-10:30 a.m.

Session Title: Conquering the Platelet and More for Better Outcomes
Abstract Category: 2. Acute Coronary Syndromes: Clinical
Presentation Number: 1244-082

Authors: *Ali Shafiq, Faraz Kureshi, Jae-Sik Jang, Timothy Fendler, Kensey Gosch, Philip Jones, Richard Bach, David Cohen, John Spertus, St Luke's Mid America Heart Institute and UMKC, Kansas City, MO, USA, Barnes-Jewish Hospital, Washington University School of Medicine, St. Louis, MO, USA*

Background: Current ACC/AHA guidelines recommend dual antiplatelet therapy (DAPT) on presentation in patients with non ST elevation myocardial infarction (NSTEMI). This practice, however, can complicate coronary artery bypass (CABG) procedures, required in 8% to 25% of NSTEMI patients, and lead to delays in treatment. While prior efforts to develop risk scores for needing CABG have been reported, they have never been independently validated. Therefore, we validated previously proposed risk scores for predicting CABG and explored whether additional patient characteristics can improve model prediction.

Methods: We studied NSTEMI patients enrolled in the 24-center TRIUMPH registry of acute myocardial infarction (AMI) from April 2005 to December 2008. The discrimination and calibration of previously published CABG risk prediction scores (the modified TIMI score, TIMI-TACTICS score, Risk score by Poppe et al and the GRACE score) were assessed with c-statistics and the Hosmer-Lemeshow test. After determining the risk model with the best predictive value, variables from TRIUMPH deemed most likely to increase CABG predictability were tested. The final model was reduced with backwards elimination using a p-value cutoff of 0.10.

Results: Among 2473 NSTEMI patients, 292 (11.1%) patients underwent in-hospital CABG. The c-statistics for the GRACE Score, modified TIMI Score, TIMI-TACTICS-18 Score and Poppe Score were 0.62, 0.54, 0.60 and 0.61, respectively. In the TRIUMPH registry, race, left ventricular systolic function, BMI and baseline platelet count had the greatest association for likelihood of undergoing CABG and were added to the GRACE score for a final model (c-statistic 0.66). The expanded model had significantly better discrimination than GRACE score alone (NRI = 0.29, $p<0.0001$; IDI = 0.015, $p<0.0001$).

Conclusion: The GRACE risk score as compared to others had the better discrimination and calibration for identifying NSTEMI patients requiring CABG, but its performance could be improved with 4 additional variables. This modified GRACE risk score may help identify NSTEMI at high risk for undergoing CABG; for purposes of delaying DAPT until availability of coronary angiographic data.